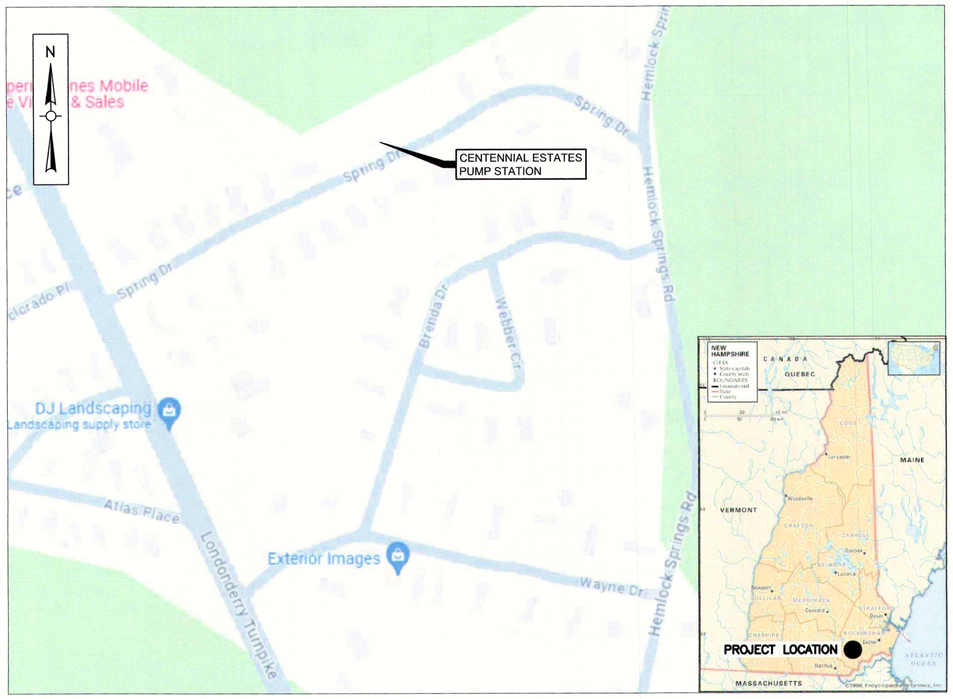
CENTENNIAL ESTATES COOPERATIVE, INC.

CENTENNIAL ESTATES PUMP STATION - PFAS TREATMENT IMPROVEMENTS
2 SPRING DRIVE, DERRY, NEW HAMPSHIRE 03038

PFAS RLF-36



LOCUS MAP
NOT SCALE

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M301	PROPOSED PUMP STATION ELEVATIONS
M601	PROPOSED PROCESS FLOW DIAGRAM

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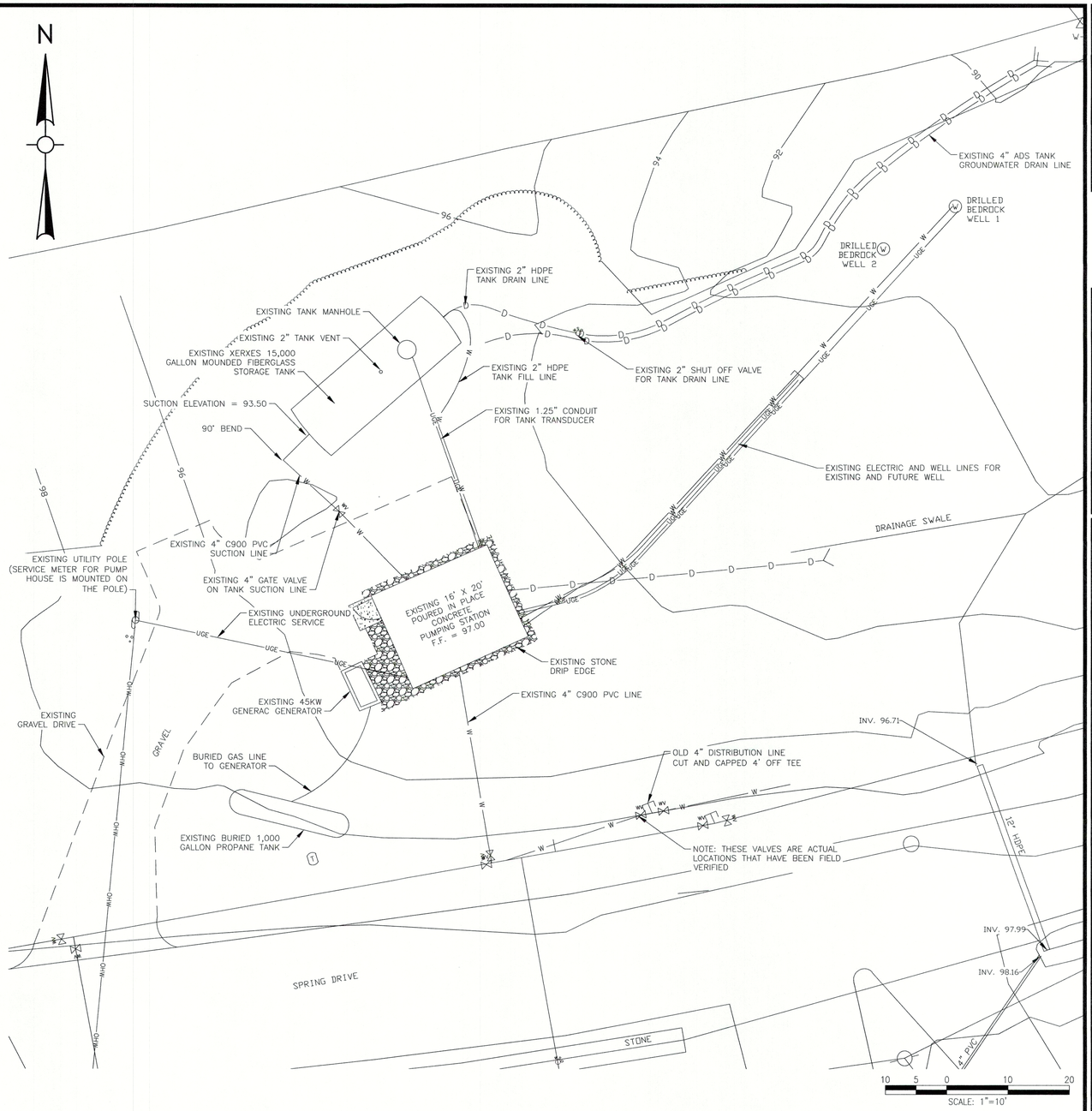
LEGEND

DESCRIPTION	EXISTING	PROPOSED
SANITARY SEWER	S	S
FORCE MAIN	FM	FM
WATER MAIN	W	W
TEMPORARY WATER		TW
STORM DRAIN	D	D
GAS	G	G
ELECTRIC	E	E
OVERHEAD WIRE	OHW	OHW
TELEPHONE	T	T
CABLE TELEVISION	CATV	CATV
GRINDER PUMP	GP	GP
SANITARY SEWER MANHOLE	S	SMH
STORM DRAIN MANHOLE	D	DMH
ELECTRICAL MANHOLE	E	EMH
TELEPHONE MANHOLE	T	TMH
AIR RELEASE VALVE MANHOLE		ARMH
FORCE MAIN CLEANOUT MANHOLE		FMCO
CLEANOUT		CO
CATCH BASIN		CB
CATCH BASIN (CURB INLET)		
HYDRANT		
TEMPORARY HYDRANT		
GATE VALVE		
CHECK VALVE		
CURB STOP		
BUTTERFLY VALVE		
BALL VALVE		
REDUCER		
CAP OR PLUG		
GAS GATE VALVE		
UTILITY POLE		
GUY POLE		
LIGHT POST		
EDGE OF PAVEMENT		
EDGE OF UNPAVED ROAD		
CURB		
SIDEWALK		
RAILROAD		
STONE WALL		
RETAINING WALL	RET. WALL	RET WALL
FENCE	x x	x x
INDIVIDUAL DECIDUOUS TREE		
INDIVIDUAL EVERGREEN TREE		
TREE LINE		
SURVEY MARKER		
PROPERTY LINE	P	
EASEMENT LINE		
LIMIT OF WORK		
APPROX. LIMIT OF REFUSE		
SPOT ELEVATIONS	x100.5	x100.5
CONTOUR LINES	56	56
DEPRESSION CONTOUR LINES		
HOUSE NUMBER	#35	
FLOOR ELEVATION	FL=56.7	
SILL ELEVATION	S=56.7	
WETLAND		
WETLAND FLAGS		WF-7 WF-8
RIP RAP		
DRAINAGE DITCH / SWALE		
STATE HIGHWAY STATION	10	
GUARD POST		
BOLLARD	B	B
SIGN		
BENCH MARK		
PERCOLATION TEST	PT 1	PT-1
TEST PIT	TP 1	TP-1
BORING	B-1	B-1
PROBE	P-1	P-1
GROUNDWATER MONITORING WELL	WS-1	WS-1
GAS MONITORING WELL	GMW-1	GMW-1
GAS VENT	GV	GV
HAY BALES		
ROCK OUTCROP		

NOTE: ITEMS SHOWN IN THE LEGEND MAY NOT BE PRESENT IN THESE PLANS

ABBREVIATIONS

AC	ASBESTOS CEMENT PIPE
ACCMP	ASPHALT COATED CORRUGATED METAL PIPE
ARV	AIR RELEASE VALVE
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
BC	BITUMINOUS CONCRETE
BIT	BITUMINOUS
BLDG	BUILDING
BM	BENCH MARK
BO	BLOW OFF
BV	BUTTERFLY VALVE
CATV	CABLE TELEVISION
CB	CATCH BASIN
CC	CONCRETE CURB
CI	CAST IRON
℄	CENTERLINE
CL	CEMENT LINED
CMP	CORRUGATED METAL PIPE
CONC	CONCRETE
CU FT	CUBIC FEET
CY	CUBIC YARD
D	STORM DRAIN, DEPTH FROM RIM TO INVERT
DI	DROP INLET, DUCTILE IRON
DIA	DIAMETER
DMH	DRAIN MANHOLE
DWG	DRAWING
E	EAST, ELECTRIC
EA	EACH
EF	EACH FACE
ELEV	ELEVATION
EOP	EDGE OF PAVEMENT
EW	EACH WAY
EXIST	EXISTING
FLG	FLANGE
FT	FEET, FOOT
G	NATURAL GAS
GALV	GALVANIZED
GC	GRANITE CURB
GR	GRANITE
HC	HOUSE CONNECTION
HORIZ	HORIZONTAL
HP	HIGH PRESSURE
HYD	FIRE HYDRANT
I	INVERT
INV	INVERT
ID	INSIDE DIAMETER
IP	IRON PIPE
LB	POUND
LF	LINEAR FEET
LS	LUMP SUM
MAX	MAXIMUM
MB	MAIL BOX
MECH	MECHANICAL
MH	MANHOLE
NHDOT	NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION
MIN	MINIMUM
MISC	MISCELLANEOUS
MJ	MECHANICAL JOINT
NHDES	NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES
N	NORTH
NE	NORTH EAST
NW	NORTH WEST
NF	NOT FOUND
NO OR #	NUMBER
OD	OUTSIDE DIAMETER
PCCP	PRESTRESSED CONCRETE CYLINDER PIPE
PE	PLAIN END, POLYETHYLENE
ℙ	PROPERTY LINE
PL	PLATE
PVC	POLYVINYL CHLORIDE
PVCO	MOLECULARLY ORIENTED POLYVINYL CHLORIDE
PVMT	PAVEMENT
RCP	REINFORCED CONCRETE PIPE
ROW	RIGHT-OF-WAY
RQD	ROCK QUALITY
S	SEWER, SOUTH
SE	SOUTH EAST
SECT	SECTION
SF	SQUARE FEET
SHT	SHEET
SPEC	SPECIFICATIONS
SQ FT	SQUARE FEET
SS	SEWER SERVICE, STAINLESS STEEL
STA	STATION
STL	STEEL
SW	SIDEWALK, SOUTH WEST
T	HYDROSTATIC THRUST, TELEPHONE
TBM	TEMPORARY BENCH MARK
THK	THICK (NESS)
TYP	TYPICAL
UP	UTILITY POLE
VC	VITRIFIED CLAY
VERT	VERTICAL
W	WATER, WEST
W/	WITH
W/O	WITHOUT


N
EXISTING 4" ADS TANK GROUNDWATER DRAIN LINE
DRILLED BEDROCK WELL 1
DRILLED BEDROCK WELL 2
EXISTING 2" HDPE TANK DRAIN LINE
EXISTING TANK MANHOLE
EXISTING 2" TANK VENT
EXISTING XERXES 15,000 GALLON MOUNDED FIBERGLASS STORAGE TANK
EXISTING 2" HDPE TANK FILL LINE
EXISTING 2" SHUT OFF VALVE FOR TANK DRAIN LINE
SUCTION ELEVATION = 93.50
90° BEND
EXISTING 1.25" CONDUIT FOR TANK TRANSDUCER
EXISTING ELECTRIC AND WELL LINES FOR EXISTING AND FUTURE WELL
DRAINAGE SWALE
EXISTING 4" C900 PVC SUCTION LINE
EXISTING UTILITY POLE (SERVICE METER FOR PUMP HOUSE IS MOUNTED ON THE POLE)
EXISTING 4" GATE VALVE ON TANK SUCTION LINE
EXISTING UNDERGROUND ELECTRIC SERVICE
EXISTING 16' X 20' POURED IN PLACE CONCRETE PUMPING STATION F.F. = 97.00
EXISTING STONE DRIP EDGE
EXISTING 45KW GENERAC GENERATOR
EXISTING 4" C900 PVC LINE
EXISTING GRAVEL DRIVE
GRAVEL
BURIED GAS LINE TO GENERATOR
OLD 4" DISTRIBUTION LINE CUT AND CAPPED 4' OFF TEE
INV. 96.71
EXISTING BURIED 1,000 GALLON PROPANE TANK
NOTE: THESE VALVES ARE ACTUAL LOCATIONS THAT HAVE BEEN FIELD VERIFIED
12" HDPE
INV. 97.99
INV. 98.16
SPRING DRIVE
STONE
4" PVC
10 5 0 10 20
SCALE: 1"=10'

CONSTRUCTION NOTES

1. THE CONTRACTOR SHALL CALL DIGSAFE AT 1-888-344-7233 AND CITY/TOWN DEPARTMENTS AS APPROPRIATE AT LEAST 72 HOURS, SATURDAYS, SUNDAYS, AND HOLIDAYS EXCLUDED, PRIOR TO EXCAVATING AT ANY EXTERIOR LOCATIONS. A COPY OF THE DIGSAFE PROJECT REFERENCE NUMBER(S) SHALL BE GIVEN TO THE OWNER PRIOR TO EXCAVATION.
2. LOCATIONS OF EXISTING PIPES, CONDUITS, UTILITIES, FOUNDATIONS AND OTHER UNDERGROUND OBJECTS ARE NOT WARRANTED TO BE CORRECT AND THE CONTRACTOR SHALL HAVE NO CLAIM ON THAT ACCOUNT SHOULD THEY BE OTHER THAN SHOWN.
3. ALL PAVEMENT DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE REPLACED IN ACCORDANCE WITH THE SPECIFICATIONS AND AS SHOWN ON THE DRAWINGS.
4. ALL AREAS DISTURBED BY THE CONTRACTOR BEYOND PAYMENT LIMITS SHALL BE RESTORED AT NO ADDITIONAL COST TO THE OWNER.
5. THE CONTRACTOR SHALL COORDINATE ACCEPTABLE MATERIAL STORAGE AREAS WITH OWNER AND ENGINEER PRIOR TO DELIVERY OR MOBILIZATION TO PROJECT SITE.
6. ELEVATIONS REFERENCED ARE NORTH AMERICAN VERTICAL DATUM (NAVD) 1983.

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Drawing Title:
SITE PLAN & GENERAL NOTES

Sheet Number:
C201

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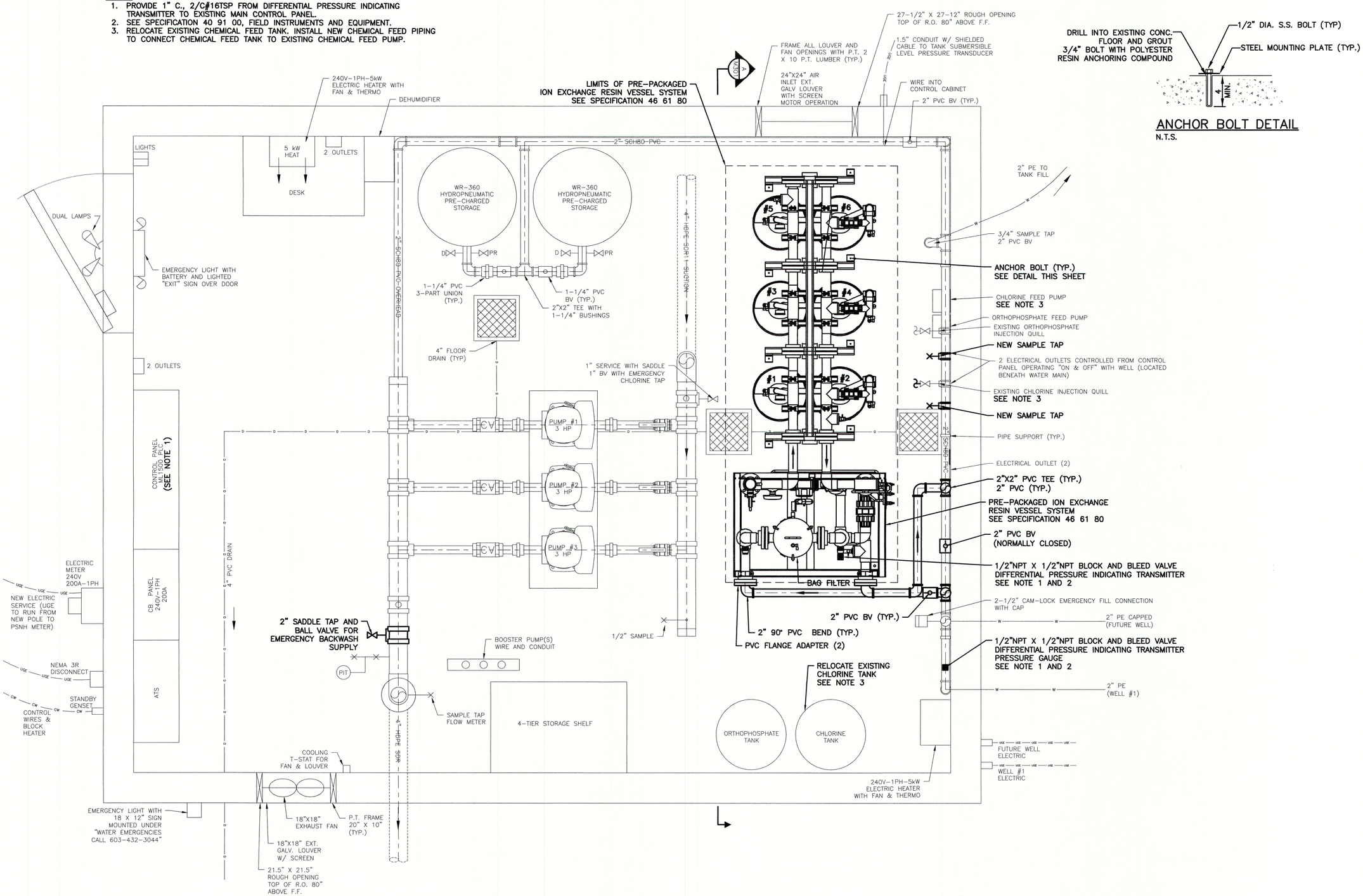
NOTES:

1. PROVIDE 1" C., 2/C#16TSP FROM DIFFERENTIAL PRESSURE INDICATING TRANSMITTER TO EXISTING MAIN CONTROL PANEL.
2. SEE SPECIFICATION 40 91 00, FIELD INSTRUMENTS AND EQUIPMENT.
3. RELOCATE EXISTING CHEMICAL FEED TANK. INSTALL NEW CHEMICAL FEED PIPING TO CONNECT CHEMICAL FEED TANK TO EXISTING CHEMICAL FEED PUMP.


LIMITS OF PRE-PACKAGED ION EXCHANGE RESIN VESSEL SYSTEM SEE SPECIFICATION 46 61 80
27-1/2" X 27-12" ROUGH OPENING TOP OF R.O. 80" ABOVE F.F.
FRAME ALL LOUVER AND FAN OPENINGS WITH P.T. 2 X 10 P.T. LUMBER (TYP.)
1.5" CONDUIT W/ SHIELDED CABLE TO TANK SUBMERSIBLE LEVEL PRESSURE TRANSDUCER
24"X24" AIR INLET EXT. GALV LOUVER WITH SCREEN MOTOR OPERATION
WIRE INTO CONTROL CABINET
2" PVC BV (TYP.)
240V-1PH-5kW ELECTRIC HEATER WITH FAN & THERMO
DEHUMIDIFIER
LIGHTS
5 kW HEAT
2 OUTLETS
DESK
DUAL LAMPS
EMERGENCY LIGHT WITH BATTERY AND LIGHTED "EXIT" SIGN OVER DOOR
2" SCH80-PVC
WR-360 HYDROPNEUMATIC PRE-CHARGED STORAGE
WR-360 HYDROPNEUMATIC PRE-CHARGED STORAGE
1-1/4" PVC 3-PART UNION (TYP.)
1-1/4" PVC BV (TYP.)
2"X2" TEE WITH 1-1/4" BUSHINGS
4" HDPE-SDR11-SUCTION
4" FLOOR DRAIN (TYP)
1" SERVICE WITH SADDLE 1" BV WITH EMERGENCY CHLORINE TAP
2" PE TO TANK FILL
3/4" SAMPLE TAP 2" PVC BV
ANCHOR BOLT (TYP.) SEE DETAIL THIS SHEET
CHLORINE FEED PUMP SEE NOTE 3
ORTHOPHOSPHATE FEED PUMP
EXISTING ORTHOPHOSPHATE INJECTION QUILL
NEW SAMPLE TAP
2 ELECTRICAL OUTLETS CONTROLLED FROM CONTROL PANEL OPERATING "ON & OFF" WITH WELL (LOCATED BENEATH WATER MAIN)
EXISTING CHLORINE INJECTION QUILL SEE NOTE 3
NEW SAMPLE TAP
PIPE SUPPORT (TYP.)
ELECTRICAL OUTLET (2)
2"X2" PVC TEE (TYP.) 2" PVC (TYP.)
PRE-PACKAGED ION EXCHANGE RESIN VESSEL SYSTEM SEE SPECIFICATION 46 61 80
2" PVC BV (NORMALLY CLOSED)
1/2"NPT X 1/2"NPT BLOCK AND BLEED VALVE DIFFERENTIAL PRESSURE INDICATING TRANSMITTER SEE NOTE 1 AND 2
BAG FILTER
2" PVC BV (TYP.)
2" 90° PVC BEND (TYP.)
PVC FLANGE ADAPTER (2)
2-1/2" CAM-LOCK EMERGENCY FILL CONNECTION WITH CAP
2" PE CAPPED (FUTURE WELL)
1/2"NPT X 1/2"NPT BLOCK AND BLEED VALVE DIFFERENTIAL PRESSURE INDICATING TRANSMITTER PRESSURE GAUGE SEE NOTE 1 AND 2
2" PE (WELL #1)
FUTURE WELL ELECTRIC
WELL #1 ELECTRIC
240V-1PH-5kW ELECTRIC HEATER WITH FAN & THERMO
RELOCATE EXISTING CHLORINE TANK SEE NOTE 3
ORTHOPHOSPHATE TANK
CHLORINE TANK
4-TIER STORAGE SHELF
2 OUTLETS
CONTROL PANEL ML1500 PLC (SEE NOTE 1)
CB PANEL 240V-1PH 200A
ATS
PUMP #1 3 HP
PUMP #2 3 HP
PUMP #3 3 HP
CV
4" PVC DRAIN
4" HDPE-SDR11
ELECTRIC METER 240V 200A-1PH
NEW ELECTRIC SERVICE (UGE TO RUN FROM NEW POLE TO PSNH METER)
NEMA 3R DISCONNECT
STANDBY GENSET
CONTROL WIRES & BLOCK HEATER
2" SADDLE TAP AND BALL VALVE FOR EMERGENCY BACKWASH SUPPLY
PIT
BOOSTER PUMP(S) WIRE AND CONDUIT
1/2" SAMPLE
SAMPLE TAP FLOW METER
COOLING T-STAT FOR FAN & LOUVER
EMERGENCY LIGHT WITH 18 X 12" SIGN MOUNTED UNDER "WATER EMERGENCIES CALL 603-432-3044"
18"X18" EXHAUST FAN
P.T. FRAME 20" X 10" (TYP.)
18"X18" EXT. GALV. LOUVER W/ SCREEN
21.5" X 21.5" ROUGH OPENING TOP OF R.O. 80" ABOVE F.F.
#1
#2
#3
#4
#5
#6

DRILL INTO EXISTING CONC. FLOOR AND GROUT 3/4" BOLT WITH POLYESTER RESIN ANCHORING COMPOUND
1/2" DIA. S.S. BOLT (TYP)
STEEL MOUNTING PLATE (TYP.)
4 MIN.

ANCHOR BOLT DETAIL
N.T.S.

0 1 2 3
SCALE: 1"=1'-0"

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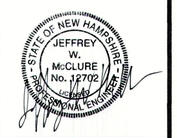

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PROPOSED PUMP STATION FLOOR PLAN

Sheet Number:

M101

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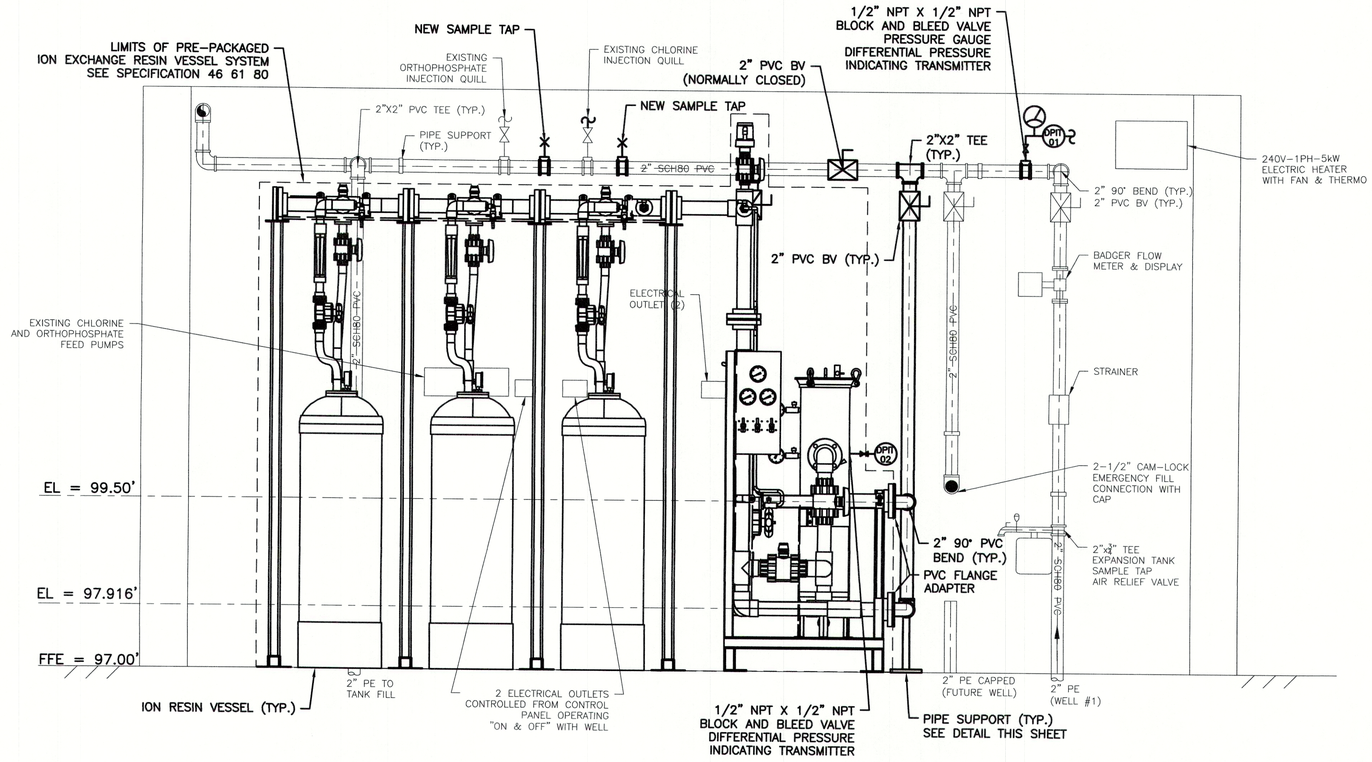
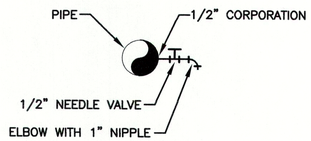
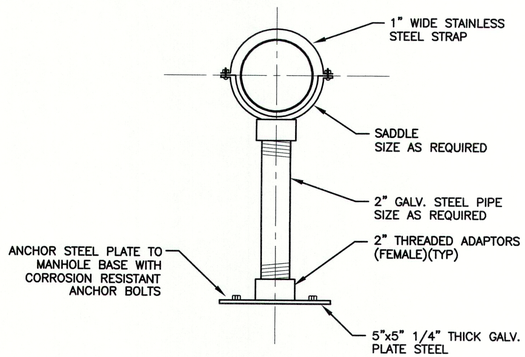

LIMITS OF PRE-PACKAGED ION EXCHANGE RESIN VESSEL SYSTEM SEE SPECIFICATION 46 61 80
NEW SAMPLE TAP
EXISTING ORTHOPHOSPHATE INJECTION QUILL
EXISTING CHLORINE INJECTION QUILL
2" PVC BV (NORMALLY CLOSED)
1/2" NPT X 1/2" NPT BLOCK AND BLEED VALVE PRESSURE GAUGE DIFFERENTIAL PRESSURE INDICATING TRANSMITTER
NEW SAMPLE TAP
2"X2" PVC TEE (TYP.)
PIPE SUPPORT (TYP.)
2" SCH80 PVC
2"X2" TEE (TYP.)
240V-1PH-5kW ELECTRIC HEATER WITH FAN & THERMO
2" 90° BEND (TYP.)
2" PVC BV (TYP.)
2" PVC BV (TYP.)
BADGER FLOW METER & DISPLAY
EXISTING CHLORINE AND ORTHOPHOSPHATE FEED PUMPS
ELECTRICAL OUTLET (2)
2" SCH80 PVC
STRAINER
2-1/2" CAM-LOCK EMERGENCY FILL CONNECTION WITH CAP
2"x3" TEE EXPANSION TANK SAMPLE TAP AIR RELIEF VALVE
2" SCH80 PVC
2" 90° PVC BEND (TYP.)
PVC FLANGE ADAPTER
EL = 99.50'
EL = 97.916'
FFE = 97.00'
2" PE TO TANK FILL
2 ELECTRICAL OUTLETS CONTROLLED FROM CONTROL PANEL OPERATING "ON & OFF" WITH WELL
2" PE CAPPED (FUTURE WELL)
2" PE (WELL #1)
ION RESIN VESSEL (TYP.)
1/2" NPT X 1/2" NPT BLOCK AND BLEED VALVE DIFFERENTIAL PRESSURE INDICATING TRANSMITTER
PIPE SUPPORT (TYP.) SEE DETAIL THIS SHEET

A / M101 SECTION
SCALE: 1"=1'-0"



SAMPLE TAP DETAIL
N.T.S.


1" WIDE STAINLESS STEEL STRAP
SADDLE SIZE AS REQUIRED
2" GALV. STEEL PIPE SIZE AS REQUIRED
2" THREADED ADAPTORS (FEMALE)(TYP)
ANCHOR STEEL PLATE TO MANHOLE BASE WITH CORROSION RESISTANT ANCHOR BOLTS
5"x5" 1/4" THICK GALV. PLATE STEEL

ADJUSTABLE STEEL PIPE SUPPORT
N.T.S.

0 1 2 3
SCALE: 1"=1'-0"

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PROPOSED PUMP STATION ELEVATIONS

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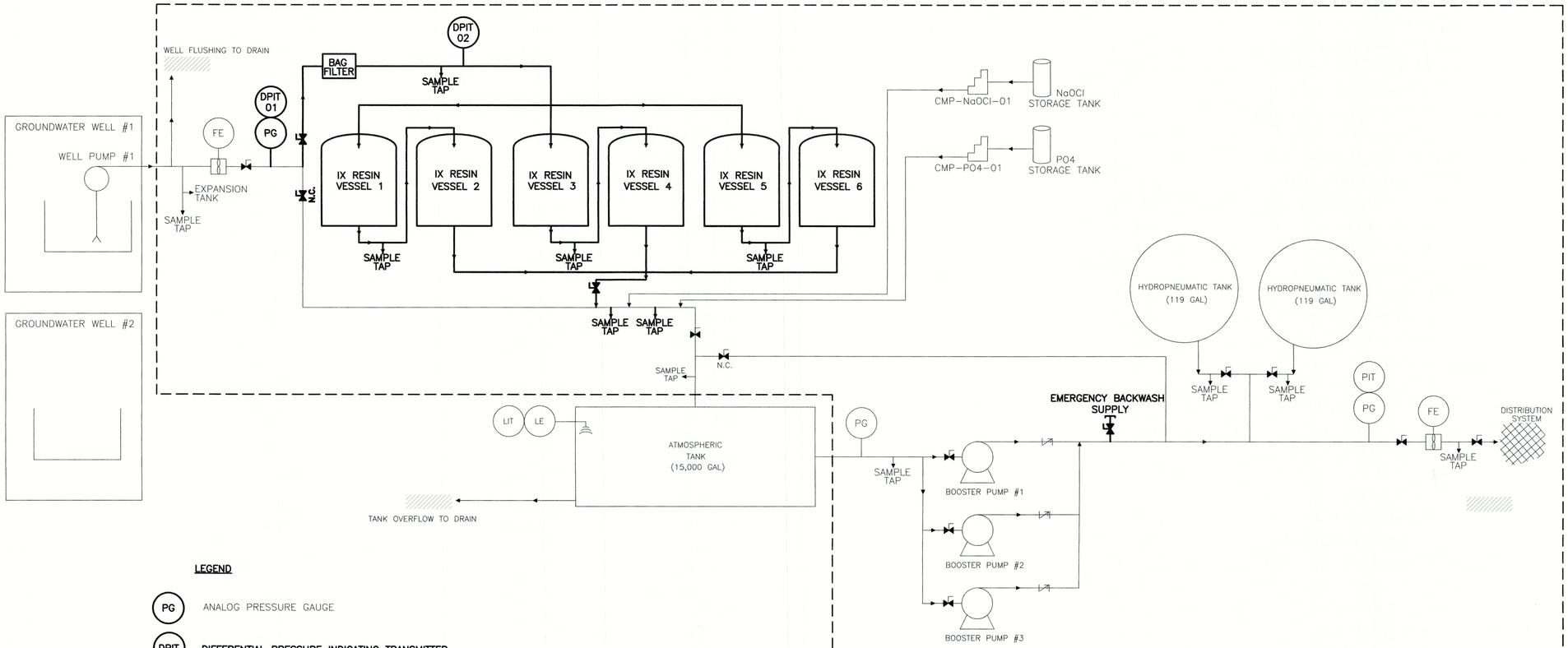

LEGEND

- PG — ANALOG PRESSURE GAUGE
- DPIT — **DIFFERENTIAL PRESSURE INDICATING TRANSMITTER**
- FE — WATER METER
- LIT / LE — LEVEL INDICATING TRANSMITTER & LEVEL ELEMENT
- **BALL VALVE**
- CHECK VALVE
- CHEMICAL METERING PUMP

CENTENNIAL ESTATES PUMP STATION PROPOSED PROCESS FLOW DIAGRAM

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PROPOSED PROCESS FLOW DIAGRAM

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